

Suisun Marsh Tidal Wetland Restoration and Species Recovery

Interagency Ecological Program

2006 Annual Workshop

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By

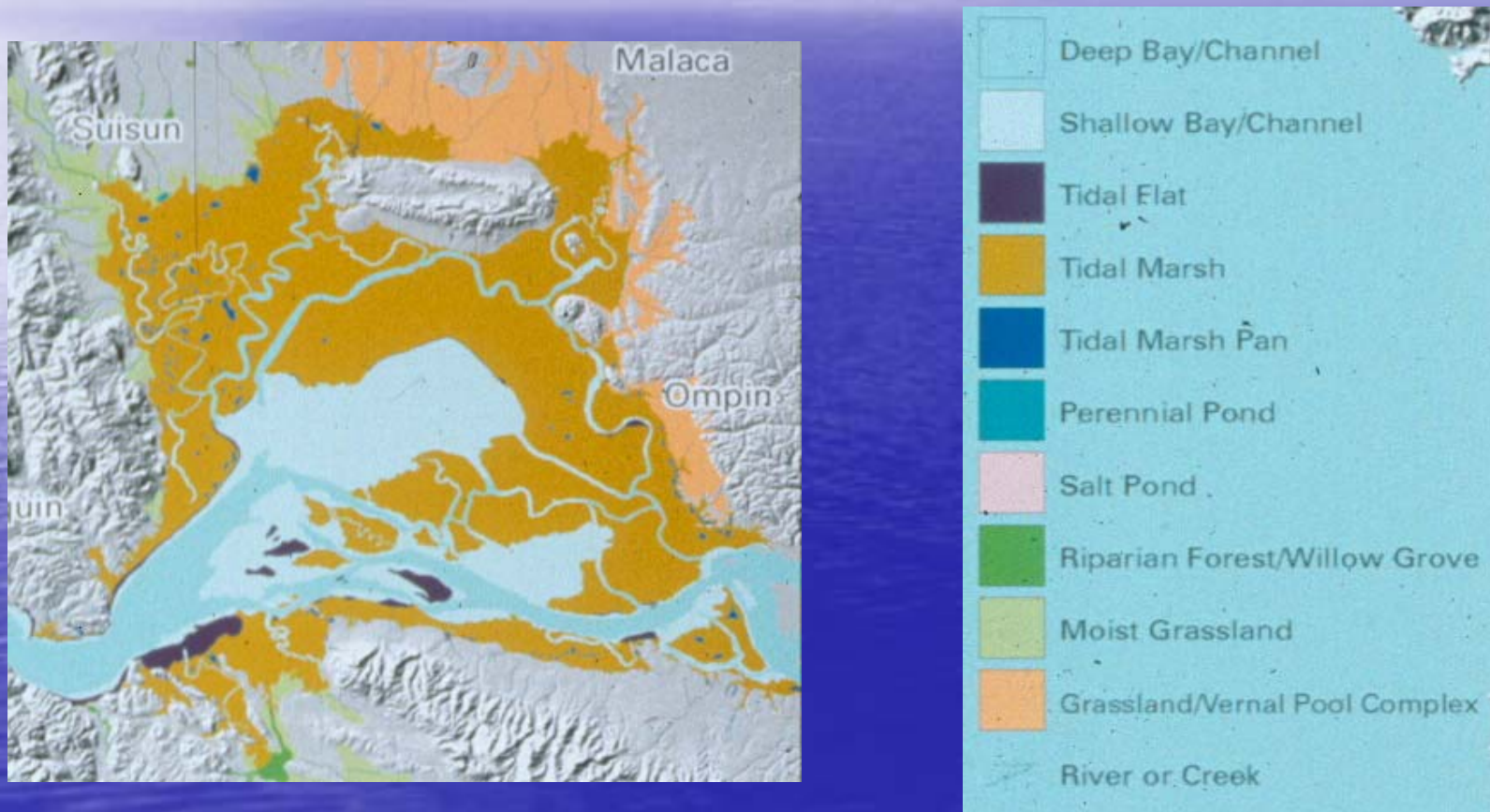
Carl Wilcox

California Department of Fish and Game

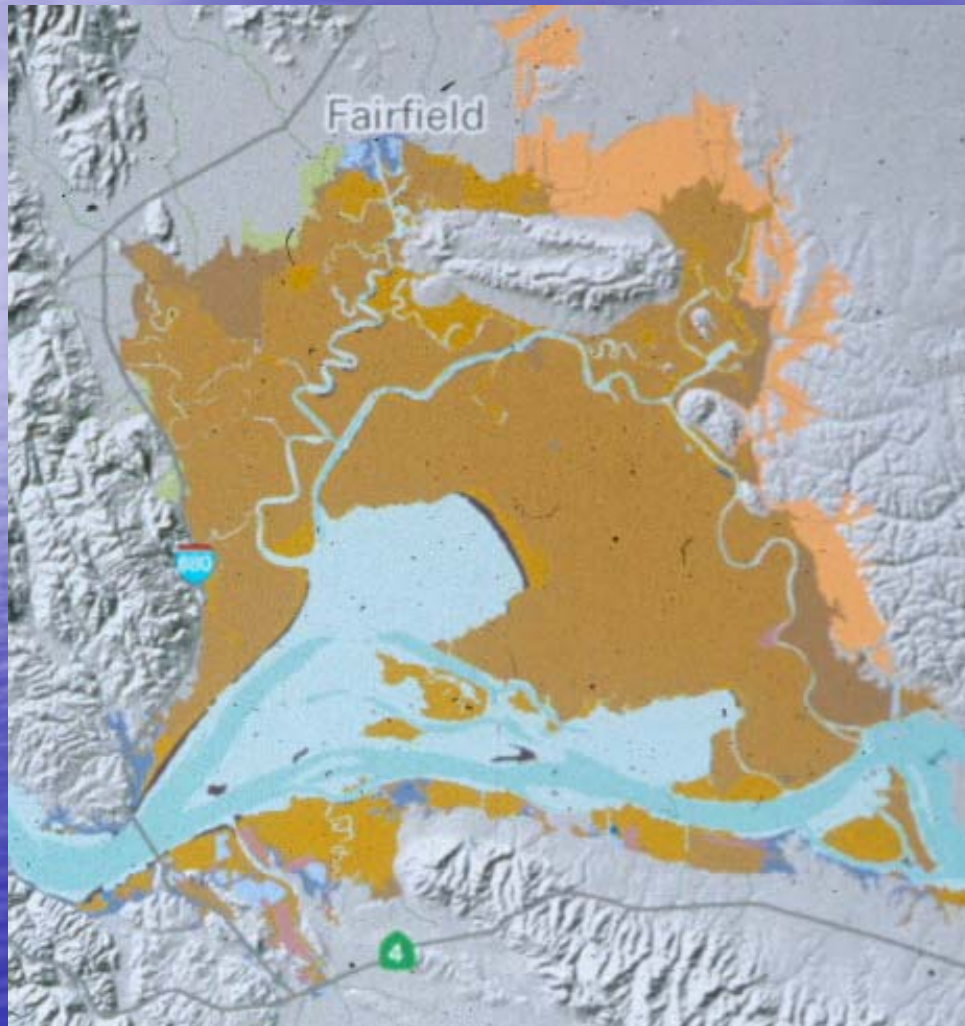
Tidal Restoration Objectives

- Restore tidal marshes contiguous with upland transitions
- Expand distribution and amount of sloughs and shallow subtidal habitat
- Restore natural processes, increase productivity and nutrient export to adjacent bay waters
- Enhance populations of listed and sensitive native species.

Historic Habitats of Suisun Marsh



Current Habitat Composition



Habitat Change



Managed marsh 54,000 acres

Tidal marsh 13,562 acres
(79% decline)

Bay and channel 34,012 acres
(17% decline)

Tidal flats 1,124 acres (53%
decline)

Filled baylands 3,935 acres

Consequences

- Loss of transitional habitat
- Loss of tidal sloughs
- Reduced productivity
- Reduce tidal circulation
- Reduction of shallow subtidal
- Listing of numerous marsh dependent species
- Subsidence
- Sustainability
- Habitat Fragmentation



Remaining marshes provide necessary habitat for sensitive species of plants, fish, mammals and birds and centers of biodiversity within the marsh.



Suisun song sparrow

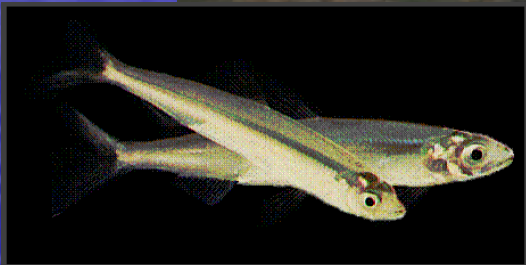


California clapper rail



Soft birds-beak

Remaining tidal marshes include Hill Slough, Rush Ranch/Cutoff Slough, lower Joyce Island and Peytonia Slough



Restoration of Transitions



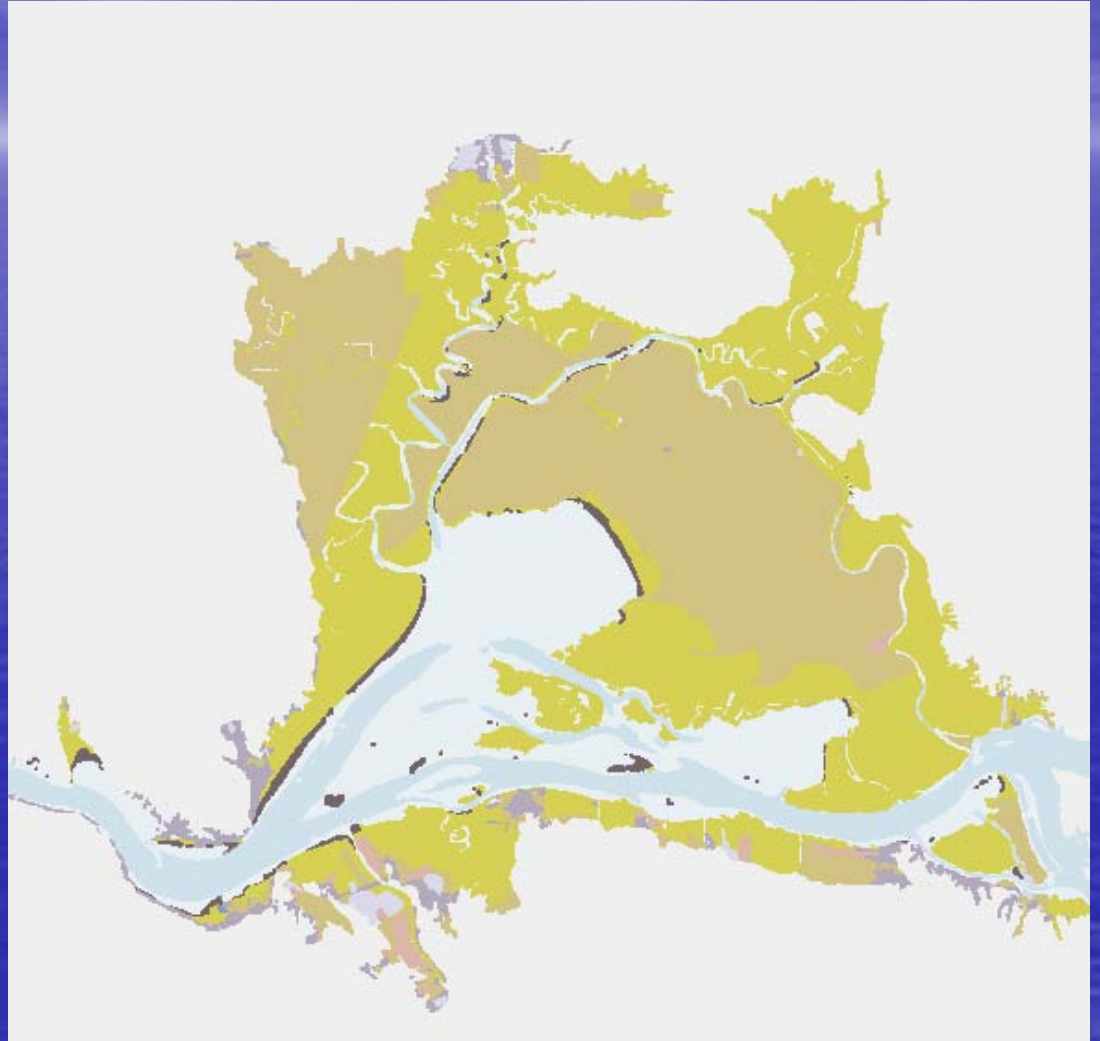
Pickleweed found in high marsh due to elevated soil salinities provides important habitat for the endangered salt marsh harvest mouse.



Short and Long-term Restoration

ERP Phase 1
Restoration of 7,000
acres

Tidal Marsh
Recovery
Restoration of
20,000 + acres



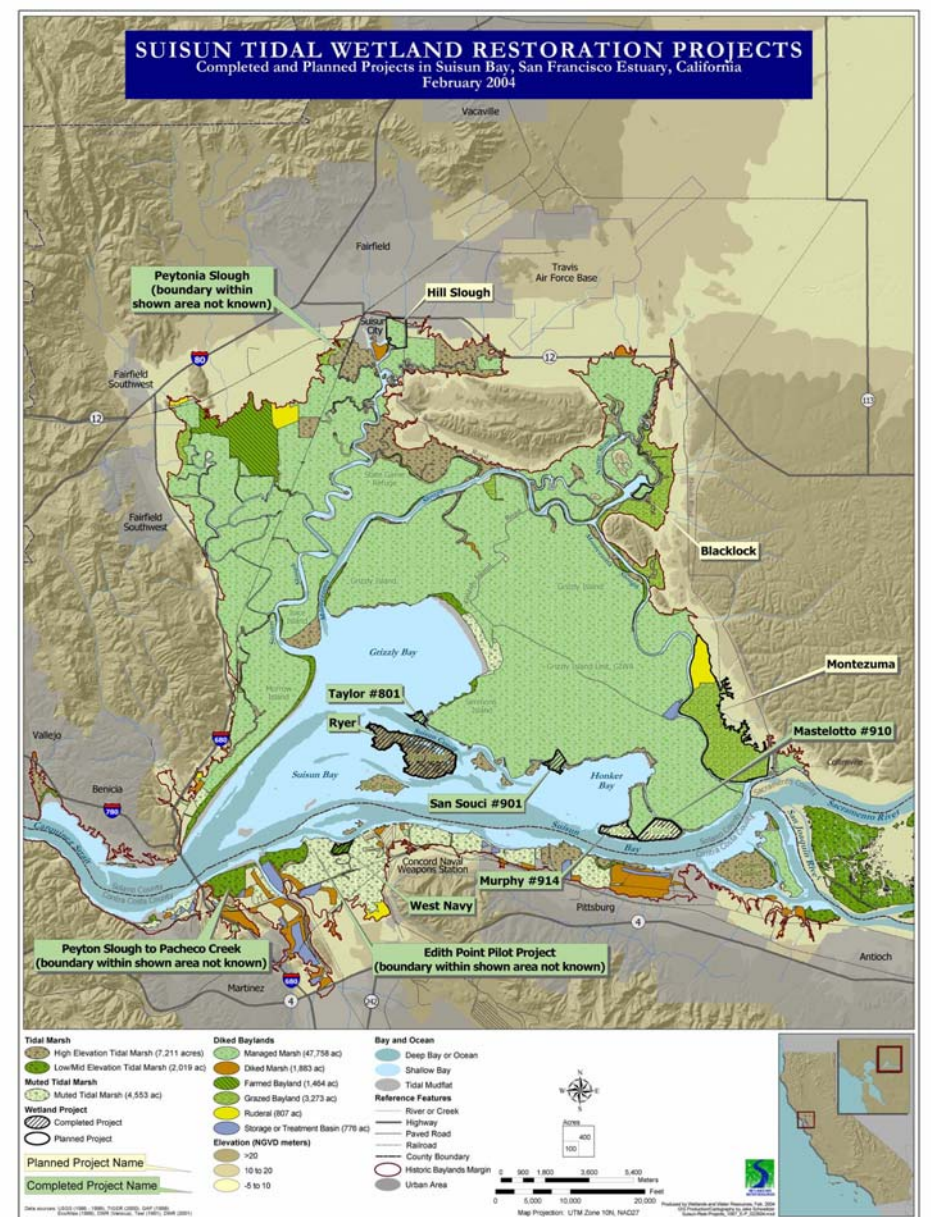
Constraints to Tidal Restoration

- Subsidence
- Limited sediment supply
- Protecting infrastructure
- Effects on salinity
- Protection of neighboring properties
- Reduction of managed marsh

Not every place in the marsh is a good candidate for tidal marsh restoration.

Suisun Restoration Projects

- Hill Slough West
- Montezuma Wetlands
- Blacklock
- Means Landing
- Moth Ball Fleet/Goodyear Slough



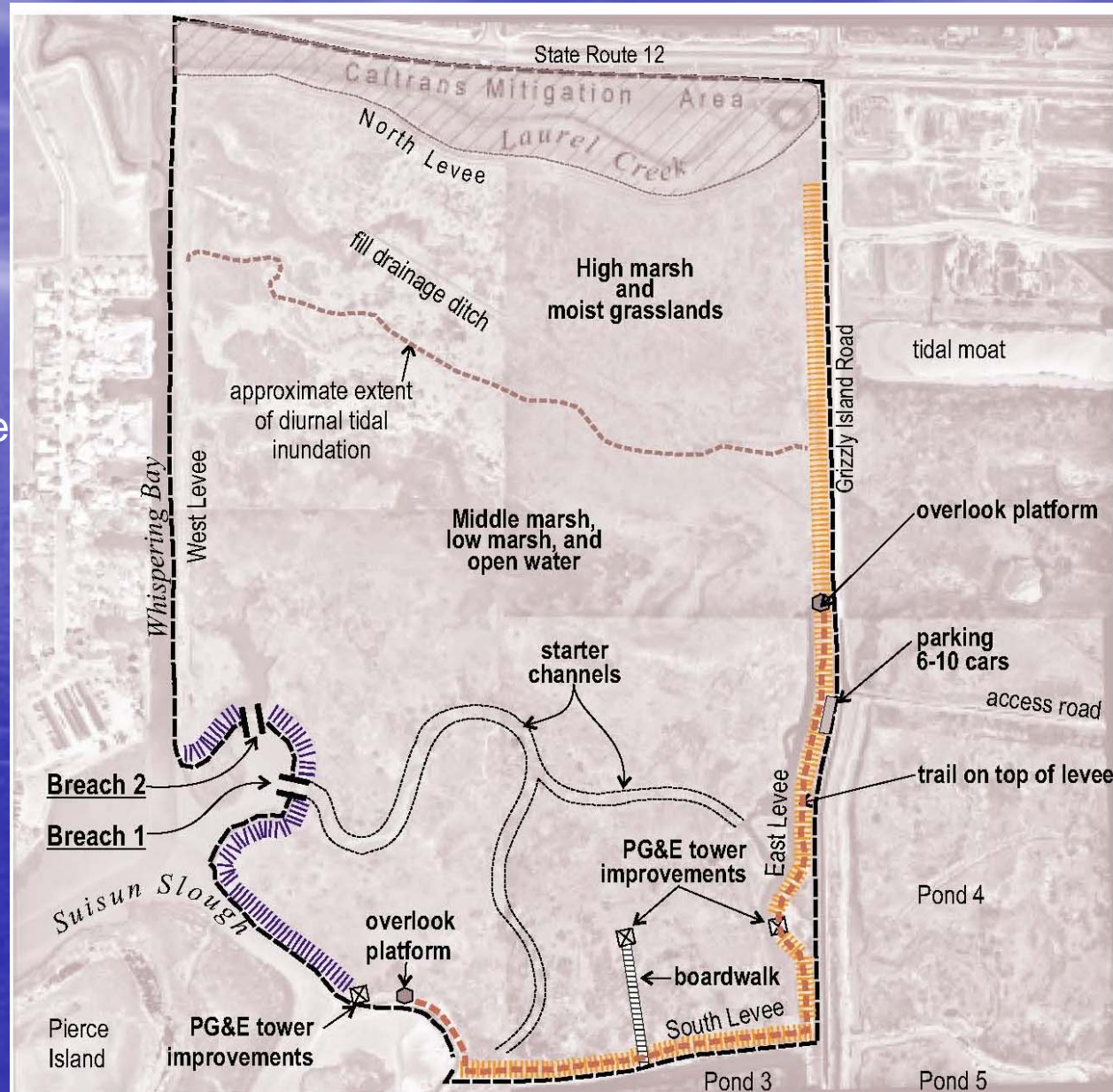
Hill Slough West



Restoration Plan

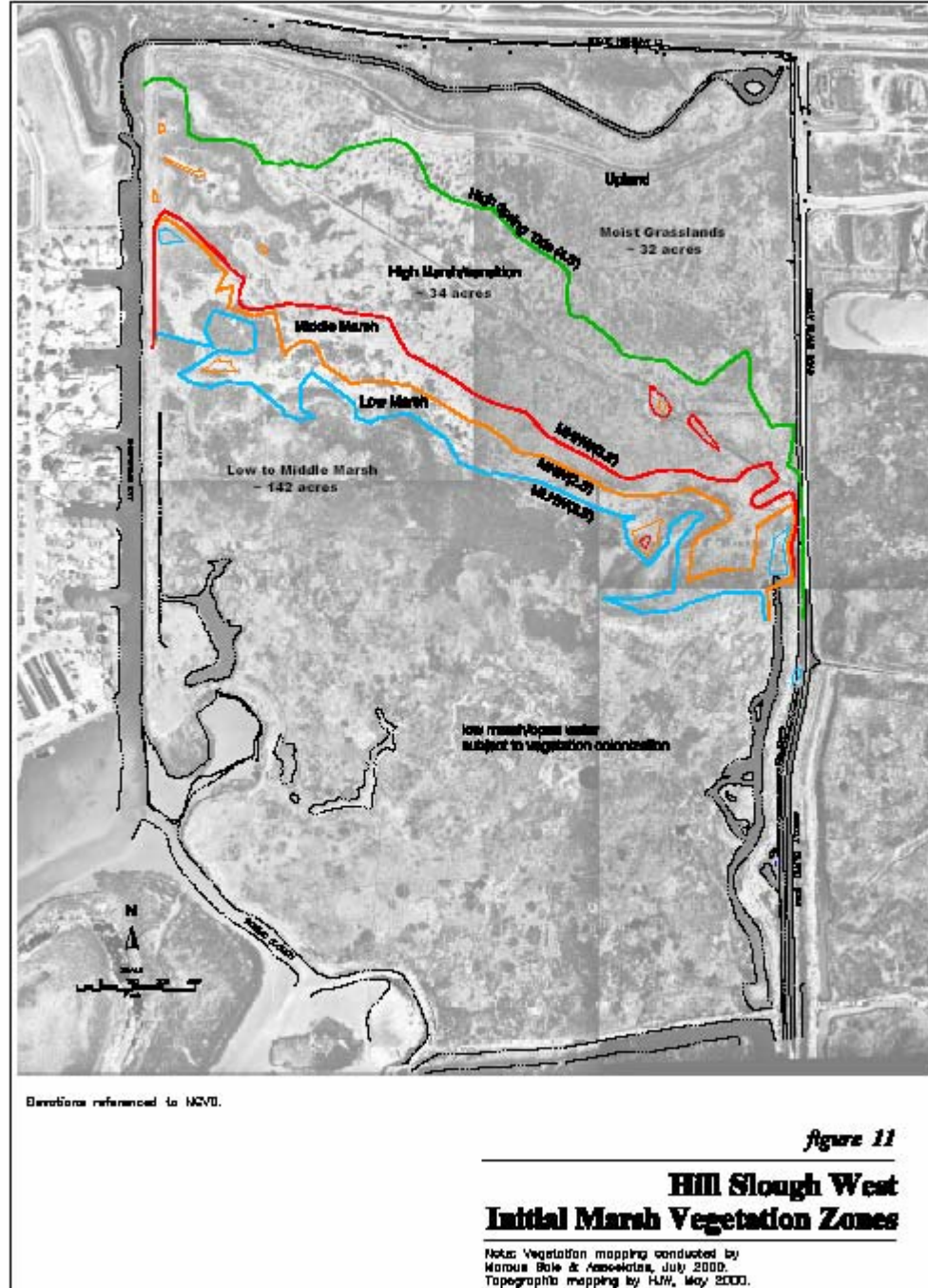
Objectives

- Establish full tidal influence
- Transitional habitat
- Establishment of sloughs
- Habitat for estuarine fish
- Habitat for sensitive plants
- Habitat for wildlife



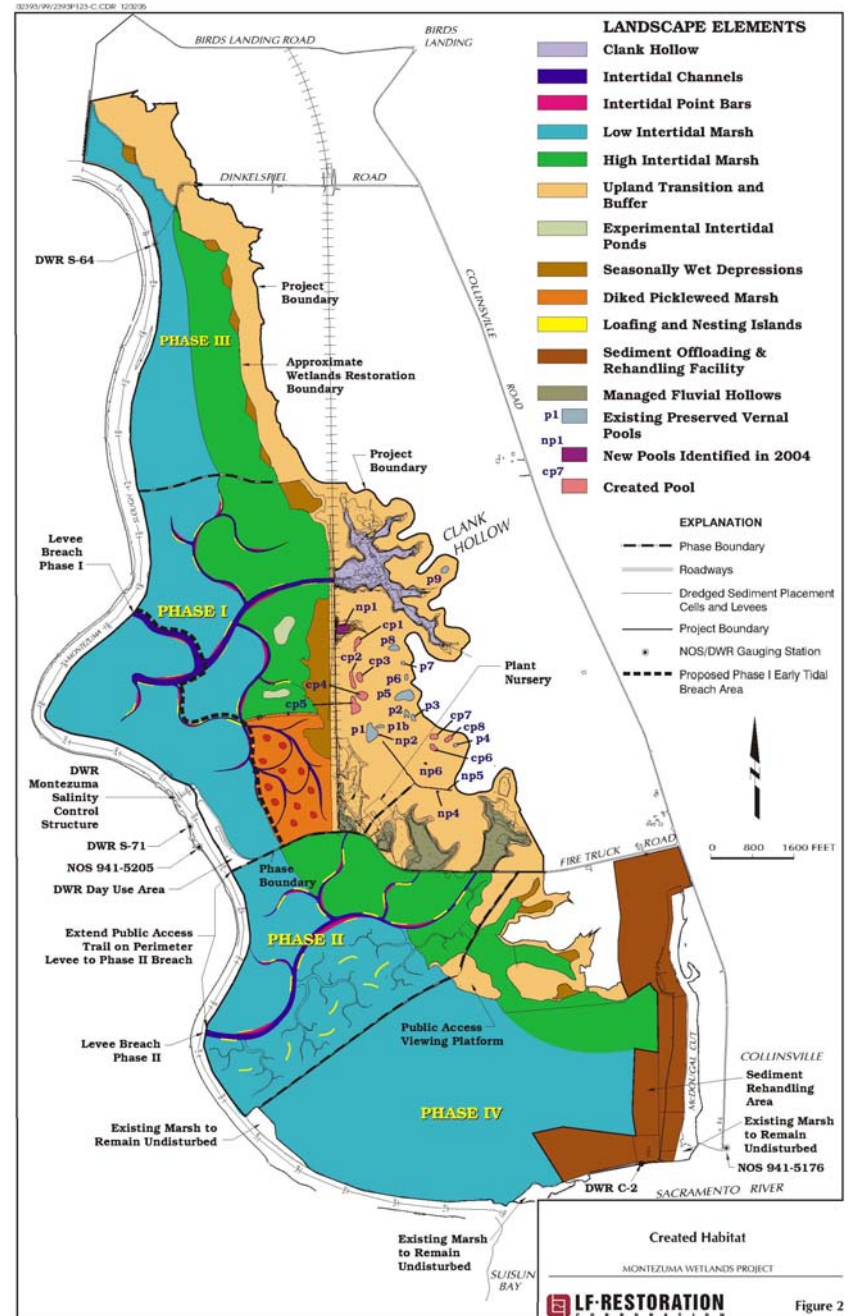
Expected Outcomes

- Full tidal circulation
- New large order slough
- Transitional habitat
- High, mid, and low marsh
- Large area of low marsh and open water



Montezuma Wetlands

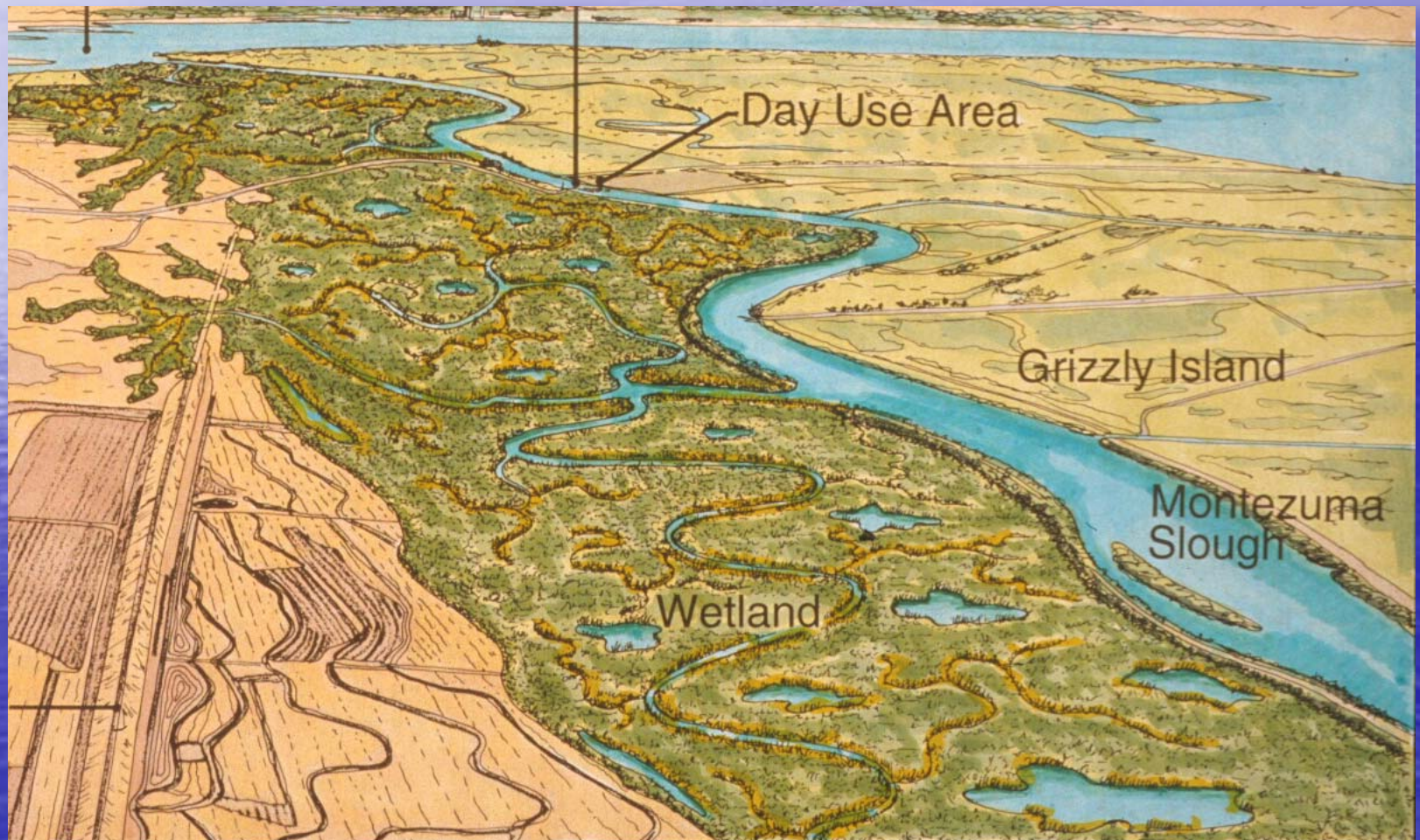
- Deeply subsided
- Use of dredge material
- Construction of large sloughs
- Re-establishment of transition
- Pond development



Montezuma Construction



Anticipated Outcome



Blacklock

Objectives

- Full tidal exchange
- Re-establishment of tidal sloughs
- Marsh plain accretion through sediment and biotic accretion
- Habitat for fish and marsh dependent wildlife
- Habitat levee



Tidal ponds within the historic tidal marshes provided waterfowl habitat which waterfowl hunters to the marsh



The Suisun Marsh Charter Process and preparation of the Suisun Implementation Plan will provide the vehicle to restore tidal marsh in the broader context of overall management of the Marsh by balancing the habitat needs of species using managed wetlands and tidal-marsh-dependent species.